Marshall County REMC
IURC Data Request
for January 17, 2003

Electric Service Quality Rulemaking
Data Request

Reliability:
The area of reliability will include the examination of sustained outages, momentary outages, restoration of service following a sustained outage and power quality.

1. Is your utility participating in any EPRI (or other organizations) research projects relating to reliability or other service quality issues? If yes, please describe the project(s) you are involved in and how it relates to reliability issues addressed in this section of the data request.

No. Marshall County REMC does not belong to EPRI, however, it is a member of the Cooperative Research Network (CRN) sponsored by the National Rural Electric Cooperative Association (NRECA). CRN works with EPRI as well as other R & D organizations on some projects.

CRN solicits project ideas from their member supporters each year. The project reports are then distributed to all members and all members are able to use the results on their systems without any charges. The member systems are encouraged to use the research data generated to improve their system reliability. By pooling the resources of members, CRN is able to leverage R & D investment for developing current business solutions / improvements.

A few of the research projects completed are:

- What's new in cable,
- Evaluation of aging conductors,
- Fault location using real time,
- Lightning data, power system monitoring and GIS,
- Doing a better job on maintenance,
- Consumer power quality problems,
- Electric cooperative technology solutions.

In general, the CRN projects are designed to improve equipment performance, reduce life cycle costs, and improve system reliability.

Service Interruption and Outages

Sustained Outages:

1. How does your utility identify an outage? At what point does your utility consider an outage a “sustained" outage versus a "momentary" outage?

The Marshall County REMC (MCREMC) relies on its customers’ calls to report they have no electricity and to state that they have checked their equipment prior to calling.

The MCREMC considers a power outage of six (6) minutes or more as a sustained outage. A momentary outage would last five (5) minutes or less.

2. Please describe the response process once an outage is identified. Has your response process changed in any way over the past 5 years? Please explain those changes. What follow-up is done after service has been restored to determine that an individual customer, once again, has electric service?

During working hours, outage calls are answered by office personnel. After hours, calls are answered by the lineman on call, and he may request a supervisor take calls based on call volume. Outage tickets are prepared and grouped for supervisor / linemen showing: 1) Customer name, 2) street address, 3) location, 4) phone number, along with comments by the member concerning the problem. The office contacts the lineman designated to be first responder and provides all known data. Additional linemen are contacted and assigned duties as necessary. Before reenergizing the power line, the linemen contact the office to be sure all personnel are clear, etc.

The only changes have been the addition of cell phones and pagers to our radio system to improve contact with personnel and the addition of more bucket trucks with material handling equipment enabling personnel to work safer.

The line crews spot check the area and phone calls are made to verify power has been restored.

3. Under what conditions or circumstances does your utility report an outage to the Commission? Since January 2001, how often have you reported an outage to the Commission? How often did you provide updates on the outage and the restoration of service?

Normally, the MCREMC does not report power outages to the IURC.

We serve about 6,600 customers in rural areas. Each power delivery point has less than 1,000 customers; each circuit from the delivery point has still fewer customers.

It has been our understanding that the IURC was not interested in having outage reports for small groups of customers.

If a storm should cause extensive damage to our system affecting a large number of customers at one time, the IURC would be advised by telephone and follow-up reports would be made as requested.

Since January 2001, no outage reports have been made to the IURC.

4. Outages resulting from major weather events can somewhat be anticipated, please describe the weather event outage response from the time a weather situation is known or anticipated to exist through the time the last customer is brought back online. Please describe any facilities and/or procedures that are specifically used in anticipation or during a major weather event in case of widespread outages. Are the facilities and/or procedures different depending on the type of weather event, for example tornado conditions versus a potential ice storm? Are there non-weather related outage situations when these facilities and/or procedures are used?

The MCREMC does not subscribe to a weather reporting service. Rather, it relies on local TV, radio, etc. to alert for potential storms. When a storm is forecasted for our service area, all line crew members including management and supervisors are placed on alert status. Each carries pagers. Trucks are normally kept fueled and stocked.

When the storm hits and calls come in, they are tracked by location / lines, etc. Estimates of system damage is made by supervisors. If it is determined that additional personnel are needed, the Indiana REMC Disaster Assistance program is activated by contacting Indiana Statewide REC Safety Department. They are advised the number of crews and type of equipment needed. Statewide personnel locate crews, etc. and advise us estimated arrival time. The MCREMC arranges for hotels, meals, etc. and develops plans to dispatch and supervise incoming crews. Contract construction crews and our contract tree crews are considered as part of available help.

In general, lines from substations with available incoming power are worked on first. However, the type of damage, area affected, and essential power loads are considered in the restoration plans. Lines are worked first and individuals last. All weather events and the extent of system damage are evaluated in the same way. MCREMC makes an effort to provide all resources needed to restore power within a reasonable time.

All of Indiana's REMC participates in the REMC Disaster plan. It is designed to help fellow REMC's recover from a disaster. In addition, line contractors will supply available crews and our right-of-way maintenance contractor makes his personnel available.

5. What other government (local, state, federal) agencies or organizations **must** your utility interact or communicate with during outage situations? Specifically, are there other agencies or organizations that your utility is required by law or regulation to report to or communicate with during outage situations?

The MCREMC normally advises / works with the RUS about major outages. Although not required, the MCREMC interacts with all local governmental agencies such as: Indiana State Police, Marshall County Sheriff's Department, Plymouth Police Department, and other area city police organizations along with all area fire departments including: Plymouth, Argos, Culver, Bourbon, Lapaz, and Walkerton, the Marshall County Emergency Management Agency (formerly Civil Defense) coordinates local resources during emergencies, Federal Emergency Management Agency (FEMA) and all county and city governmental units as appropriate. The type of emergency or outage governs which local governmental agency the MCREMC works through. The IURC, depending on extent of system damage, is advised as appropriate.

6. Are there other agencies, organizations or companies that your utility typically interacts or communicates with during critical outage situations? Please describe the circumstances and types of interactions or communications that occur.

The MCREMC maintains contact with numerous private agencies during emergencies. These include: 1) NRUCFC for financing through our line of credit, 2) various supply vendors for line hardware, poles, transformers, etc., 3) local / area news organizations (radio, newspapers, TV) to inform members and public, 5) Indiana Statewide REC Coordinator for additional crews, 5) various local businesses for fuel, meals, hotels, etc. for extra crews, 6) local medical facilities if required, 7) Red Cross and other similar agencies providing assistance to the general public, 8) Wabash Valley Power Association (power supplier) concerning status of system and for any assistance needed with transmission of power.

7. What is the policy concerning the use of service crews from other utilities? Has the availability of crews or the willingness of other utilities to make crews available become more limited in recent years? Are non-utility crews being used or considered more routinely than requesting crews from neighboring utilities?

The MCREMC is a member of Indiana Statewide REC, Inc. They are the coordinator of the Indiana REMC Disaster Plan and arrange for crews (manpower and equipment) from other Indiana REMC's. They also obtain assistance from rural electric systems in surrounding states, if required.

The Indiana REMC's have agreed to help each other during emergencies. All have been willing to send their personnel to assist another REMC. There does not appear to be any problem obtaining men and equipment.

In the past, we have used contract crews for assistance when they are working on our construction projects. Contractors that we normally work with would send crews if requested.

8. What type of information does your utility typically gather/report/analyze regarding sustained outages? How is this information used in the utility?

For all outages, the MCREMC collects the following data for crew use: 1) Name on account, 2) location, 3) street address, 4) phone number, 5) time power went off, 5) time power restored, 6) crew report on cause and any future work, 7) number of customers involved.

The MCREMC uses the outage data in various ways such as: 1) dispatch crews to restore power, 2) make permanent repairs if required, 3) assist management in planning system improvements, work plans, etc., 4) for feedback to customers or news media, if requested, etc.

9. Does the utility attempt to quantify the financial costs of outages to customers and local communities? If so, please explain how this is done.

No. The MCREMC does not make any effort to quantify the financial cost to individual customers / members (residential, manufacturers, commercial, farmers, etc.) or to local communities for power outages (either major or minor).

Momentary Outages:

1. Does your utility identify and track momentary outages? How is a momentary outage identified and/or defined?

The MCREMC does not track momentary outages. It would require additional manpower and equipment to do this. Consequently, rates would need to be increased to cover the expense involved. However, if a customer complains, the MCREMC investigates the cause. Corrections to the line are made when the problem is identified.

Momentary outages are those lasting less than five (5) minutes.

2. What type of information does your utility typically gather/report/analyze regarding momentary outages? How is this information used in the utility?

MCREMC gathers limited information on momentary outages in response to a customer inquiry / complaint. This limited information along with customer-supplied data is provided to line crews for investigation. Since many faults are self-clearing during reclosure operation, it is difficult for

line crews to locate causes. When problems are found, corrections are made.

3. Other than the duration of the outage, are there operational or characteristic differences in a sustained outage versus a momentary outage?

The main difference is outage duration. For momentary outages, line crews are not dispatched to make repairs. However, customer complaints about excessive momentary outages are investigated.

Performance Measures and Statistics

1. Typical reliability performance statistics include SAIDI, CAIDI, SAIFI, etc. Does your utility routinely calculate these statistics? How is each of the variables in each of the calculations defined? Are these statistics calculated as part of your outage management system or through some other means?

The MCREMC does not calculate these statistics.

The MCREMC does not define these variables.

The MCREMC does not have a computer program for outage management to calculate these statistics. The cost to purchase and maintain an outage management system tied into our consumer records was not included in our last retail rate case.

2. Are there other reliability statistics your utility calculates? What are they? How are they calculated? How are the variables used to calculate them defined? Are these statistics calculated as part of your outage management system or through some other means?

Yes. These are statistics prepared for the RUS annual report. The RUS requires outage statistics based on consumer outage hours for one (1) year and five (5) years. These service interruptions fall into the following categories: 1) average hours per consumer by power supplies, 2) average hours per consumer by extreme storm, 3) average hour per consumer pre-arranged, 4) average hours per consumer by other, 5) total hours per consumer.

These are calculated manually from tickets turned in by the line crews showing number of consumers affected and hours to restore service, etc.

1) Power Supplier – NIPSCO provides the transmission service in this area to all of our delivery points. A power supplier outage is where NIPSCO loses service to one of our delivery points.

2) Extreme Storm – This is a major storm caused by ice, wind, etc. that caused a service interruption to a large percentage of customers.

3) Pre-arranged – These are interruptions that are planned and customers notified that require work to be performed on de-energized power lines.

4) All Other – This is all service interruptions that do not fit other categories and include such things as: auto accidents, lightning, animals, digging into lines, etc.

5) Total – This is the addition of all numbers.

These statistics are manually calculated from outage tickets turned in by line crew personnel.

3. Does your outage management system calculate other reliability statistics that your utility does not routinely review? What are these statistics? How are they calculated? How are the variables used to calculate them defined?

No.

The MCREMC does not have a computer outage management system to calculate statistics as stated earlier.

4. Reliability statistics are often calculated excluding storms or other major outage events. What are the advantages and disadvantages to excluding storms or other events? Do reliability statistics typically calculated by your utility include or exclude storms or major outage events? If these events are excluded, how do you determine when to exclude an outage event? How do you define the different levels of outage events?

The advantage to exclude storms from outage calculations would be to have a lower outage time per consumer. Storm outage hours are not as accurate as other hours because line crews are more concerned about getting power on rather than the accuracy of statistics.

The disadvantage to excluding storms would be to understate the hours customers are without electric service. However, storms should be a separate line item calculation.

Storms are one part of the service interruption hours we are required to report to RUS.

Storms are not excluded from our report to RUS.

The different levels are described earlier in this section.

5. How do service territory differences (e.g., rural versus metropolitan, high industrial concentration versus more residential) affect the calculation of reliability statistics? What statistic, if any, is most indifferent to the service area characteristics, in other words, what statistic(s) would most likely allow relevant comparisons among a wide variety of utility types?

Service territory should not affect the reliability statistics calculation. The statistical definitions are the same. However, the interpretation of outage statistics should recognize differences in loads, consumer density, and type. For example, rural areas tend to have long radial feed lines that are more exposed to auto accidents, animals, lightning, tree problems, etc. and normally are without dual feed sources. The highly industrial / commercial areas have dual feed power lines capable of switching power sources automatically in many instances. The size / type of KW load supports this additional cost. The lower density of consumers per mile of rural line will not justify the reliability cost that a high-density urban area will support. Reliability is a cost that customers have to support through rates.

The MCREMC does not know of any statistics that would allow utility reliability comparisons. Reliability statistics are all average numbers. Thus, in as an average, some are better and some are worse on reliability.

6. Can the calculation of reliability indices be standardized among Indiana utilities? Please explain how that might be done.

The formula to calculate a reliability index among Indiana utilities can be standardized. If this is done, it should be easy to calculate and based on a national standard. However, all utilities should not be compared by the IURC and/or news media for reliability. The utilities should not be judged on this standard index for their reliability. The IURC needs to recognize that there are differences in utility service areas and that reliability statistics will vary for each utility from year-to-year. There are several things including weather that cannot be quantified. Rural systems have lower density, more radial lines and more exposure to auto accidents, lightning, etc. The metropolitan areas have more two-way fed lines, less exposure to accidents and taller facilities to attract lightning, etc.

The MCREMC thinks each should be compared to its own long-term trend of improvement. Work plans are developed to improve system reliability. All local REMC managers have to address reliability problems and want to present a good record.

7. Should utility size or other characteristics be taken into consideration when evaluating the reliability statistics from a company?

System size, density, area served (heavy woods vs. open, etc.) should be considered. Rates for a system with only low consumer density will not

support the same reliability that a higher density area will support. Thus, retail rates will only support so much reliability. Any system should improve their reliability over time with their work plans.

8. Are performance evaluations and the resulting compensation for any individual, groups of individuals or divisions of the utility tied to reliability statistic results? Please explain what reliability statistics are used and who is evaluated based on the results of those statistics. How are the acceptable levels of performance set and what are those levels?

Yes.

In Rural Electric Systems, the CEO / General Manager is accountable to a Board of Directors. He has to manage the marketing (customer relations, etc.), financial (budget, accounting, etc.), operations (work plans for construction, maintenance, and operation) of the distribution system to provide for safe, timely, and reliable service to all customers / members within the system. The quality and reliability of the electric service is one factor considered by directors during their annual review of the CEO.

Worst circuits

In order to prevent utilities from having "pockets" of poor service reliability, some state commissions require utilities to report the top 10-25 worst circuits and then address those problem areas.

1. Are there areas of your utility's service territory that are more prone to outages, either sustained or momentary, or other reliability problems, such as power quality, than others? How does your utility address this type of problem?

In general, there are areas where reliability is worse than others and other lines will almost never have problems. Areas with lots of trees have more sustained and momentary outages. Rates only support so much tree clearing and there are a few customers who fight all tree clearing. Weather plays a part also. For example, lightning may or may not follow the same path each year and each storm (wind, sleet, lightning, etc.) may affect different parts of our distribution system as it passes through the area.

In an effort to improve system reliability, the MCREMC has a tree-clearing program. We rotate contract crews around the system to clear lines. However, some customers refuse to permit any tree clearing. In addition, we spray to control brush. We also have a pole testing program and perform various system improvements. Circuits that consistently have reliability problems are reviewed with annual work plans. However, all outages cannot be prevented or controlled.

2. What are the advantages of identifying the top worst performing circuits of a utility?

By identifying the worst performing circuits / lines, a utility is able to review it to determine what improvements are needed and/or justified.

3. What are the disadvantages of identifying the top worst performing circuits of a utility?

The danger is labeling certain lines "worst performing". REMC's all want to know where their bad circuits are located. However, the utility may not be able to improve the reliability of a circuit / line because of excessive costs compared to revenue available.

Even though a line may have a lot of outages, customers are not necessarily unhappy with the utility. They may prefer lower reliability to having adequate tree clearance or a higher rate.

Power Quality

1. Based on your utility's interaction with its customers, is power quality an important concern of your customers? What aspects of power quality are of particular concern (voltage sag, high or low voltage, voltage spikes and transients, flickers, surges, harmonies, other)? Please explain. Are there typical types of customers or customer classes that voice a greater concern about power quality than others? Please explain. How has your utility addressed these concerns?

The MCREMC thinks power quality (PQ) is an important concern of its members. However, PQ is of greater concern for some customers / members than for others.

All aspects of PQ listed are important. The type of equipment or use of the power determines what is most important to that customer. Some manufacturing operations require very high quality of power while others do not.

Businesses that use sensitive equipment would be the most concerned about PQ. Residential customers are more concerned with flicker that requires resetting digital clocks.

MCREMC addresses PQ concerns on a case-by-case basis. If our employees are unable to solve specific problems, we work with the engineering staff at Wabash Valley Power Association and Alpha Engineering of Indiana, our consulting engineer.

2. Does your utility have any program or plan in place specifically addressing power quality issues? Please explain. How have these programs or plans changed over the last five years?

No. The MCREMC has only a 6,600 customer base. Consequently, revenue will not support a dedicated PQ staff. However, MCREMC personnel investigate PQ complaints on a case-by-case method. If they are unable to solve the problem, consultants named above are utilized to

develop solutions and to work with the customer. This procedure has not changed during the last five (5) years.

3. Does your utility collect/track any type of power quality related data? If so, what data is collected and how is it used by the utility?

The MCREMC does not collect or track PQ data on a regular basis. In developing work plans, our consulting engineer reviews customers, KWH, KW, etc. to recommend system improvements that benefit all customers.

4. Is power quality data used as a performance measure for compensation for any person(s), groups and/or divisions in your utility? Please explain what data is used and why.

No. Power quality issues are not used in our compensation plan.

Leading Indicators

While it's important to restore service as quickly as possible following an outage, when practical, it is better to prevent the outage from occurring.

1. What are good leading indicators of possible service outages? Does your utility routinely monitor specific aspects of the electric operations or system with the goal of preventing service outages? What do you monitor and why?

MCREMC has found that a good indicator of possible service outages is through a review of past outage tickets / records. This helps to identify the causes and location of outages and helps to prioritize maintenance activity to prevent future problems.
MCREMC monitors the condition of its electric system through programs such as pole inspection, and reclosure maintenance, etc. These programs are designed to improve the safety and reliability of our distribution system by identifying facilities that may not provide acceptable levels of service. A description of these programs follow:

a. Pole Inspection – MCREMC uses a contractor – American Energy Services, Inc. – to inspect poles on a ten (10) year cycle. The company does a visual, boring, and sounding test of each pole. A report is provided and used to replace bad poles.
b. Reclosure (OCR) Maintenance – MCREMC uses a contractor to service OCR's on a three (3) year cycle.
c. Sub Station Inspections – The MCREMC owns one (1) sub station. The seven (7) other delivery points are owned and serviced by NIPSCO. The MC owned sub station equipment is monitored monthly by our personnel and an annual inspection – oil, infrared, etc. – is performed by a contractor. These programs are conducted to be sure the sub station operates as designed.
d. Circuit Inspections – The overhead facilities are inspected by a drive-by program. The objective of the inspection is to locate bad

cross arms, blown arrestors, bad insulators, etc. and schedule replacement before an outage occurs. All new construction is field checked by our consulting engineer.

2. Does your utility have a routine inspection and maintenance plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

Yes. The MCREMC utilizes an extensive inspection and maintenance program. All initial construction of overhead and underground lines are based on RUS specifications and incorporate the National Electric Safety Code Standards. When these facilities are energized, they become subject to mechanical and electrical stress from various sources and eventually need maintenance repair or replacement. As personnel drive over the system, potential problems are reported for scheduled repair.

In addition, the MCREMC belongs to CRN that performs research projects on distribution equipment. Their reports are reviewed and adapted where applicable. As an example of one of their projects, a plastic pole band is placed on poles to keep animals from climbing onto transformers and causing an outage.

The MCREMC personnel continually strive to improve the reliability of their system by adopting new ideas.

3. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

No.

4. Has your utility made any study or analysis as to how successful your inspection and maintenance plan/procedure has been in preventing service outage? Please explain.

Yes. An analysis of payroll records indicates that there are fewer overtime hours for outages compared to ten (10) years ago.

5. Does your utility have a vegetation management plan/procedure in place designed to prevent the possibility of service outages? Please explain the plan/procedure.

Yes. The MCREMC utilizes a contractor (Statewide Tree, Inc.) to trim / cut trees on the right-of-way (ROW). Our program rotates around the system and clears one (1) delivery point before moving to the next one. All customer requests for tree cutting, etc. are checked by MCREMC personnel and referred to the contractor, if valid. The stumps of cut trees are treated to prevent re-growth. We also use a contractor to spray brush along the ROW.

6. Has this plan/procedure changed in the past five (5) years? Please explain the changes and why they were made.

Yes. Mechanical mowing has been added for use in some areas to hold down costs.

7. Has your utility made any study or analysis as to how successful your vegetation management plan/procedure has been in preventing service outage? Please explain.

No specific study has been made. However, customer complaints and employee overtime has been reduced.

8. Does your utility identify/track the age of equipment used in the production and delivery of electricity to the customer? Why or why not?

No. The MCREMC does not track equipment by age. However, some equipment is tracked for maintenance scheduling.

Since we are a small utility, retail rates will only support limited staff for tracking equipment by age.

9. Could equipment age be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

Yes, for some equipment such as the old concentric neutral URD cable. For other equipment such as transformers, a KW overload and lightning damage have no relationship to age. For some equipment, weather such as wind or lightning has more influence on equipment failure than age.

10. Does your utility track equipment used in the production and delivery of electricity to the customer to identify equipment that tends to have a premature or unpredicted failure rate or degraded performance level? Why or why not?

No – the MCREMC does not have enough manpower to track all equipment. If a manufacturer states certain equipment is subject to early failure (such as the aluminum on suspension insulators), an effort is made to locate and remove the specified equipment.

11. Could the identification of equipment with premature or unpredicted failure rate or degraded performance level be used as a leading indicator of potential service outages? Would this be an effective indicator of potential service outages? Please explain.

The MCREMC has no experience with how effective this indicator would be in preventing a power outage.

12. Are there any other methods (e.g., infra-red inspections or radio frequency inspections) you carry out to help maintain and/or improve system reliability? Please describe the methods you use.

The MCREMC uses infrared inspections on sub station type equipment to locate potential equipment failure. Radio frequency inspections are used

for customer complaints that are investigated in detail. Causes may be on distribution equipment or on customer owned equipment.

Setting, Performance Standards

1. Does your utility set any type of performance standards relating to service reliability and quality as a method of determining employee and/or division performance for compensation purposes? What are these standards? How are they measured? How do they affect the overall compensation for an employee and/or division?

No. The MCREMC does not have a program to relate employee compensation and service reliability.

2. Could similar standards be set by the Commission to help evaluate and compare the service quality of Indiana utilities? Please explain why or why not.

No. The IURC should not set a statewide performance standard. Utilities should not be compared to each other but compared to their own historic performance and based on its own unique challenges.

3. If these standards are not appropriate to help evaluate and compare the service quality of Indiana utilities, please suggest some standards that would be appropriate.

Properly constructed and timed surveys might be used to develop an acceptable reliability index for each utility. In the case of the MCREMC, members are able to change directors / management if they are not satisfied with their reliability and service.

4. To date there has been little or no use of 1. C. 8-1-2.5 by utilities to propose performance based rates that would tie utility incentives/penalties to reliability and other measurable performance criteria. Is there a problem with how 1. C. 8-1-2.5 is structured that makes it inappropriate or ineffective as a vehicle for performance based rates? Please explain. From your perspective (utility, customer group, other) what are the pros and cons of performance based rates?

The MCREMC has not utilized I.C. 8-1-2.5. Incentive type rates are not advantageous to a cooperative utility because all earnings are returned to the members.

Safety:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to safety? If yes, please describe the project(s) you are involved in and how it relates to safety issues addressed in this section of the data request.

The MCREMC is a member of CRN rather than EPRI. CRN is a research organization sponsored by the NRECA and performs research projects to aid rural electric systems. CRN works with EPRI and other safety related

organizations to minimize duplication of effort. All CRN research reports are distributed to its members. The MCREMC is small and has not participated in the actual research activity for CRN projects.

2. What actions to ensure public safety are taken, both by the utility and other emergency resources, when a live power line has come down? Please explain the activities from the time a live power line is reported down until it has been repaired or rendered safe.

The MCREMC conducts training classes throughout the year for emergency personnel – police, fire, EMS, etc. – as requested. Safety demonstrations are conducted in 4-H meetings and in area school classrooms. The MCREMC also reminds the public about power line safety through advertisements and our local newsletter.

When a report of a downed power line is received, line personnel are dispatched to the location. The line crew makes the area safe, renders any assistance needed, and makes repairs to restore service in that order.

3. In situations where live power lines may be down in multiple locations, how is public safety ensured?

If power lines are down at multiple locations, the MCREMC dispatches crews to each location. The line personnel makes the assigned area safe, renders any assistance needed and makes repairs to restore service in that order. As stated above, the MCREMC works with emergency response personnel to advise them of the hazards involving downed power lines.

4. In critical weather situations where widespread areas may experience outages or down power lines, is there any central coordination (beyond each individual utility) of the restoration of service and the repair of down lines? Please explain who does the coordination and what organizations are involved.

When the MCREMC service area experiences widespread power outages, personnel make estimates of the system damage and the effort required to restore power to all customers.

If it is determined that additional crews are needed, a call to the safety department at Indiana Statewide REC is made. They are advised of the number of crews and equipment (derricks or buckets, etc.) desired. Indiana Statewide is the coordinator for the Indiana Rural Electric Systems Disaster Plan. If additional material (poles, conductors, cross arms, sleeves, etc.) will be needed, normal suppliers are contacted for rush shipments along with other Indiana REMC's as appropriate.

5. What could be done to improve the public awareness of the hazards that may exist as a result of weather related power outage? How does your utility inform customers of these types of hazards?

The MCREMC makes an attempt to educate the public about electrical safety and the hazards of downed power lines. We have safety articles at various times in our monthly newsletter and our local advertising (radio and newspaper). The monthly *Electric Consumer* has various articles on safety during the year. It is sent to all of our members. Our personnel work with the 4-H electric program and present safety demonstrations to area grade schools, fire and police departments.

6. What is the most typical accident involving utility facilities that happens to utility personnel and to non-utility/customers/the general public? What has your utility done to help try and alleviate these types of accidents?

The MCREMC attempts to inform and remind the public including employees about safety as stated above.

Our most typical accident involves a motor vehicle hitting a utility pole.

On new construction, we try to place poles to minimize potential accidents. However, it is impossible to eliminate all vehicle accidents.

7. What is the current average term of employment for service and line crew personnel? Does your utility provide on-going safety training for your line and service crews? Please explain the types of training these crews receive.

As of December 31, 2002, the average length of employment of our line crew personnel was 16.6 years.

The MCREMC participates in the safety training program sponsored by Indiana Statewide REC, Inc. – our service organization. These programs are conducted monthly by Indiana Statewide safety instructors. Their programs vary each month. A few of the recent programs covered: forklift truck operation, grounds testing, lock out tag out, pole top and bucket truck rescue, oil spill collection / prevention, proper use of personal protective equipment, CPR – first aid, etc.

The MCREMC participates in the Rural Electric Apprentice Program (REAP). It is approved by the U.S. Department of Labor Bureau of Apprenticeships and covers line work from the entry level to the journeyman level.

8. Commission rules currently require utilities to report accidents resulting in death. Do you think this rule provides useful information to the Commission? Please explain. Do you have any recommended changes that would make this rule more useful? Please explain.

Currently, the IURC requires telephone notification of accidents involving loss of life by utility personnel. These reports are expected to be sketchy. They are followed by written reports after the accident investigation. IOSHA also has similar reporting of accidents.

The MCREMC is not sure how the IURC uses these reports, however, they should be useful to the commission.

The MCREMC does not recommend any changes in this rule at this time.

9. What other organizations or agencies must you report to when there has been an accident, injury or fatality? Please explain what must be reported, under what circumstances and in what time frame from when the incident occurred.

The MCREMC has to report any accident involving a fatality to IOSHA as soon as possible. IOSHA conducts an investigation of the accident. Reports are also made to our Workmen's Compensation carrier and Indiana Statewide REC, Inc. safety department. These reports are usually by a phone call followed up by written reports as more information becomes available.

10. The Commission is aware that in preparation for Y2K utilities developed emergency operating plans (EOP). Does your utility continue to maintain and update an emergency operating plan? What circumstances or conditions is the EOP designed to cover? Is the EOP prepared and/or modified completely by utility personnel or do other organizations or agencies have input to the plan? Please explain how outside sources have input to the EOP. Does your utility routinely run drills on the EOP to check the effectiveness of the plan and to identify areas, which need improvement? Please describe your drilling procedure.

The MCREMC is a small distribution utility. Consequently, we do not have a big emergency operating plan. Our plan consists of one crew on stand-by for any outage problem during non-working hours. The stand-by crew has the phone numbers of management personnel, if needed. It also participates in the Indiana Statewide REC, Inc. Disaster Recovery Plan. The stand-by personnel are instructed to contact a management representative if they need extra assistance, etc. for an outage. Cell phones and pagers are carried by the stand-by crew and all management personnel.

Customer Service:

1. Is your utility participating in any EPRI (or other organizations) research projects relating to customer service? If yes, please describe the project(s) you are involved in and how it relates to customer service issues addressed in this section of the data request.

The MCREMC is not a member of EPRI. However, we are a member of CRN, as covered earlier. CRN collects problems / ideas, places them into

a project, performs the research necessary, and sends reports to all members. The MCREMC is not involved in any research reports. Reports are analyzed as received and evaluated for use in our system. An example of a customer service project is OxyGen Hyperoxygenation Water Treatment Systems for confined livestock. The purpose of the project was to field-test a water treatment system for confined livestock in an actual commercial operation setting for poultry and swine. The project needs additional research before offering this solution to farmers in our area.

2. Please describe your utility's customer service philosophy and how your utility implements this philosophy.

The MCREMC provides quality, reliable service to its members / customers by being easy to access, and by being alert to their needs. We follow four principles to accomplish this:

1. Innovation: Offer new solutions and state-of-art technology to meet customers' needs.

2. Accountability: Each member has an equal voice in running the co-op. We are small enough to listen and to understand each customer's needs. We are committed to meet the high standards of our customers and provide training to achieve the goal.

3. Integrity: We work to understand the customer's problem.

4. Commitment to Community: We donate time and resources to charities, community, and economic development. We educate students about safety and the environment.

3. How many employees are directly engaged in customer service types of activities and where do they fit in the utility's overall organizational structure? An organizational diagram maybe useful in responding to this question.

The MCREMC has eighteen (18) employees currently. Of these, one (1) is engaged full-time in customer service; he is part of the general manager's staff. The remaining employees provide support as appropriate. For example, the administrative personnel listen to the customer and set appointments with personnel to meet in the field to review the problem. The operations personnel stake the new services to be convenient for customers, etc. All employees strive to meet the customers' expectations in a respectful manner.

4. Assuming there are a variety of activities that can be considered "customer service" please describe the different types of activities your utility classifies as "customer service" and how many employees are engaged in each activity.

Customer service has many activities and is the primary reason an electric utility exists. These activities include:

1) Administrative – signing up new customers; preparing, explaining, and collecting bills, etc.;

2) Operations – staking lines, installing new service, repairing lines, and restoring service following an outage, etc.;

3) Member Services – assisting members with electric problems, laying out new services, sizing transformers, etc.

Administrative: 8

Operations: 9

Member Services: 1

5. Please provide a brief description of the qualifications required by employees engaged in the various customer service activities described in response to the previous question. Have these requirements and protocols changed over the past five years? Please explain.

Administrative (all employees who communicate with customers / members) must have the following:

1) High school education and some experience dealing with customers.

2) Have the ability to operate various business machines such as computers, calculators, etc.

3) Be able to read, write, and understand business English and use proper grammar.

4) Be able to do arithmetic calculations.

5) Be able to communicate with customers in an intelligent manner.

These requirements have not changed in the last five (5) years.

Customer / Member Services:

1) Be able to communicate with all types of customers.

2) Be able to listen to customers describe problems / needs and understand these problems / needs.

3) Have a high school education.

4) Have technical knowledge in energy use for agriculture, industry, and commercial operations.

5) Knowledge of standards, codes, and regulations for electricity.

6) Maintain a valid drivers license.

7) Have some technical knowledge and ability / desire to continue learning.

These requirements have not changed in the last five (5) years.

Operations – Distribution Supervisor:

1) Ability to communicate with internal and external customers both oral and written.

2) Good knowledge of standards, codes, and regulations such as N.E.S.C.

3) Have knowledge of RUS construction units and requirements for staking power lines.

4) Know company safety rules and practices.

5) Have basic computer knowledge, literacy, and skills.

6) Maintain a valid CDL.

7) Have knowledge of materials used by utilities.

Operations – Line Crew Members:

1) High school education.

2) Good knowledge of safety rules and work practices.

3) Good knowledge of circuit feeds, phasing, transformer connections, etc.

4) Maintain a valid CDL.

5) Have a good knowledge of electricity and have the ability to understand maps, field prints, etc.

6) Good knowledge of tools, materials, and equipment used in line work.

7) Have the ability to plan and direct line work.

8) Be capable of dealing with employees, customers, and the general public in a courteous, professional manner.

These requirements have not changed in the last five (5) years.

6. Please describe any equipment and/or facilities that are specifically designed to help the utility to communicate with its customers and to enhance customer service.

The MCREMC utilizes a monthly newsletter mailed to all customers with their electric bills. The *Electric Consumer* is mailed to all customers monthly.

Customers may call our main phone number on a 24-hour basis. When the office is closed, the calls are transferred to the linemen on call.

The MCREMC has a website: www.marshallcoremc.com. Sometime during 2003, we expect to make customer bills available electronically along with their ability to pay electric bills on-line, if desired.

7. How does your utility evaluate the quality and performance of your customer service activities?

The MCREMC is a cooperative utility. The customers / members elect three (3) Directors annually. These directors live in the local community and see members at coffee shops, ball games, church, etc. All members that are dissatisfied have the ability to file a complaint with a director. In addition, members have a right to attend Board of Director meetings to voice complaints. The General Manager is also available for service problem discussions.

8. Is the compensation of employees, groups of employees or divisions tied to customer service performance? Please explain how this is done and whom this process affects.

In Rural Electric Systems, the CEO / General Manager is accountable to a Board of Directors. He has to manage the marketing (customer relations, etc.), financial (budget, accounting, etc.), operations (work plans for

construction, maintenance, operations and customer service) of the distribution system to provide for safe, timely, and reliable service to all customers / members within the system. Customer service is one factor considered by the Board of Directors during the annual review of the CEO's performance.

9. What methods or statistics are used to evaluate customer service performance? Please provide a description of the methods or statistics used.

For Rural Electric Systems, each Board of Directors has their own method of evaluating the CEO / General Manager. Many factors are included in the annual evaluation of the CEO / General Manager. The following are a few of the factors the directors consider each year:

1) Financial performance.

2) Number of outages and the time required to restore electric service.

3) Customer complaints.

4) Time required to install new services.

5) The performance and courtesy of all employees, etc.